

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (CURRENTLY AMENDED) An ink jet recording apparatus, comprising:

a main tank, which stores ink therein; and

a plurality of printer units, each of which comprises:

a subtank, communicated with the main tank to store ink supplied from the main tank;

at least one recording head, communicated with the subtank and operable to eject ink supplied from the subtank; and

a controller, which controls the recording head and the subtank; and

a system controller, which controls the controller in each one of the printer units independently from another, so that the recording head in each of the printer units performs printing with respect to an independent recording medium,

wherein the subtank in one of the printer units and the subtank in another one of the printer units are communicated with the main tank in a parallel manner.

~~a plurality of subtanks, communicated with said main tank, each subtank storing ink supplied from said main tank, and being communicated with at least one recording head.~~

2. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 1, wherein a plurality of main tanks are provided such that each of the main tanks is communicated with a plurality of the sub tanks.

3. (ORIGINAL) The ink jet recording apparatus as set forth in claim 1, wherein the sub tanks are arranged in a vertical direction.

4. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 1, wherein at least one of said sub tanks is airtightly formed by a material having flexibility so that a volume of said at least one sub tank is variable.

5. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 1, further comprising:

a first ink amount detector, which detects an ink amount stored in at least one of said sub tanks; and

a first supply amount controller, which controls a supply amount of ink flowing into said at least one sub tank, based on a detection of the first ink amount detector.

6. (ORIGINAL) The ink jet recording apparatus as set forth in claim 5, wherein the first supply amount controller is provided as a first valve member.

7. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 6, wherein:

the first valve member is opened when the first ink amount detector detects an ink low state in which the ink amount stored in the at least one subtank is at a first predetermined level or less; and

the first valve member is closed when the first ink amount detector detects an ink full state in which the ink amount stored in the at least one subtank is at a second predetermined level or more.

8. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 1, wherein at least one of said subtanks is communicated with a plurality of recording heads.

9. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 1, wherein the main tank and the subtanks are arranged so as to provide a head difference therebetween, to supply ink from the main tank to the subtanks.

10. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 1, wherein the main tank is compressed to supply ink to the subtanks.

11. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 10, wherein the main tank is compressed by a pump member.

12. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 11, wherein the pump member is connected to the main tank via an air releaser which opens the main tank to an atmosphere.

13. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 6, further comprising a second supply amount controller, which controls a supply amount of ink flowing out of the main tank.

14. (ORIGINAL) The ink jet recording apparatus as set forth in claim 13, wherein the second supply amount controller is provided as a second valve member.

15. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 14, wherein the second valve member is first opened while the main tank is compressed, and then the first valve member is opened to supply ink to the at least one subtank.

16. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 14, wherein the first valve member is first closed and the compressing of the main tank is canceled when the at least one subtank is replenished, and the second valve member is then closed.

17. (PREVIOUSLY PRESENTED) The ink jet recording apparatus as set forth in claim 4, wherein each subtank contains a plate member which prevents inner surfaces of the respective sub tanks from being adhered with each other.

18. (ORIGINAL) The ink jet recording apparatus as set forth in claim 17, wherein grooves are formed on surfaces of the plate member.

19 - 44 (CANCELED).

45. (CURRENTLY AMENDED) An ink supply system, comprising:

a main tank, which stores ink therein;

a plurality of printer units, each of which comprises:

at least one recording head, communicated with the main tank and operable to

eject ink supplied from the main tank; and

a controller, which controls the recording head;

~~a plurality of recording heads, communicated with said main tank while providing a head difference therebetween; and~~

a system controller, which controls the controller in each one of the printer units independently from another, so that the recording head in each of the printer units performs printing with respect to an independent recording medium, and monitors an ink amount consumed in each the recording head to manage a residual ink amount in the main tank;

wherein the recording head in one of the printer unit and the recording head in another one of the printer unit are communicated with the main tank in a parallel manner, while providing a head difference therebetween.

46 - 81 (CANCELED).

82. (PREVIOUSLY PRESENTED) The ink supply system as set forth in claim 45, further comprising a memory for storing a residual ink amount in the main tank.

83. (CANCELED).